

REPLACEMENT DRAWINGS

FISH & RICHARDSON P.C.

Sheet 1 of 2

Title: MUTANT RECOMBINANT ADENO-ASSOCIATED VIRUSES

Applicants: Manuel Vega, et al. Attorney Docket No. 17109-003001/ 912

U.S. Serial No.: 10/022,390 Filing Date: December 17, 2001

FIGURE 3A



	10	20	30	40	50	60	
1	MPGFYEIVIKVPSDDLDEHLPGISDSFVSWVAEKEWELPPDSMDLNLIEQAPLTVAEKLQ						60
2	MPGFYEIVIKVPSDDLDEHLPGISDSFVNWVAEKEWELPPDSMDLNLIEQAPLTVAEKLQ						60
3	MPGFYEIVLKVPSDDLDERLPGISNSFVNWVAEKEWDVPPDSMDPNLIEQAPLTVAEKLQ						60
4	MPGFYEIVLKVPSDDLDEHLPGISNSFVNWVAEKEWELPPDSMDPNLIEQAPLTVAEKLQ						60
5	MPGFYEIVLKVPSDDLDEHLPGISDSFVSWVAEKEWELPPDSMDLNLIEQAPLTVAEKLQ						60
6	MPGFYEIVIKVPSDDLGHLPGISDSFVNWVAEKEWELPPDSMDLNLIEQAPLTVAEKLQ						60
7	MATFYEIVIRVPFDVEEHLPGISDSFVDWVTGQIWELPPESDLNLTVEQPQLTVADRIR						60
C	M**FYE**:*VP*D***LPGIS+SFV:WV*****W**PP*SD**+*L*EQ**LTVA****						

	70	80	90	100	110	120	
1	RDFLVQWRRVSKAPEALFFVQFEKGESYFHLHLVETTGVKSMVLGRFLSQIRDKLVQTI						120
2	RDFLVQWRRVSKAPEALFFVQFEKGESYFHLHLVETTGVKSMVLGRFLSQIRDKLVQTI						120
3	REFLVEWRRVSKAPEALFFVQFEKGESYFHLHLVETIGVKSMVVGGRYVSQIKEKLVTRI						120
4	REFLVEWRRVSKAPEALFFVQFEKGESYFHLHLVETIGVKSMVVGGRYVSQIKEKLVTRI						120
5	REFLVEWRRVSKAPEALFFVQFEKGESYFHLHLVETVGVKSMVVGGRYVSQIKEKLVTRI						120
6	RDFLTEWRRVSKAPEALFFVQFEKGESYFHMHLVETTGVKSMVLGRFLSQIREKLIQRI						120
7	RVFLYEWNKFSKQ-ESKFFVQFEKGSEYFHLHLVETSGISSMVLGRYVSQIRAOVLKVV						119
C	R:FL++W***SK**E**FFVQFEKG+:YFH*H:L+ET:G**SMV:GR::SQI::*L*::*						

	130	140	150	160	170	180	
1	YRGIEPTLPNWFVAVTKTRNGAGGGNKVVDECYIPNYLLPKTQPELQWAWTNMEEYISACL						180
2	YRGIEPTLPNWFVAVTKTRNGAGGGNKVVDECYIPNYLLPKTQPELQWAWTNMEEYISACL						180
3	YRGVFPQLPNWFVAVTKTRNGAGGGNKVVDDCYIPNYLLPKTQPELQWAWTNMDQYLSACL						180
4	YRGVFPQLPNWFVAVTKTRNGAGGGNKVVDDCYIPNYLLPKTQPELQWAWTNMDQYLSACL						180
5	YRGVFPQLPNWFVAVTKTRNGAGGGNKVVDDCYIPNYLLPKTQPELQWAWTNMDQYISACL						180
6	YRGIEPTLPNWFVAVTKTRNGAGGGNKVVDECYIPNYLLPKTQPELQWAWTNMEQYLSACL						180
7	FQGIQEPQINDWVAITKVKK--GGANKVVD SGYIPAYLLPKVQPELQWAWTNLDEYKLAAL						177
C	**G:EP:***W*A*TK*****GG*NKVD:*YIP*YLLPK*QPELQWAWTN*:Y:A*A*L						

	190	200	210	220	230	240	
1	NLAERKRLVAQHLTHVSQTQEONKENLNPNSDAPVIRSKTSARYMELVGWLVDRGITSEK						240
2	NLAERKRLVAHDLTHVSQTQEONKENLNPNSDAPVIRSKTSARYMELVGWLVDRGITSEK						240
3	NLAERKRLVAQHLTHVSQTQEONKENQNPNSDAPVIRSKTSARYMELVGWLVDRGITSEK						240
4	NLAERKRLVAQHLTHVSQTQEONKENQNPNSDAPVIRSKTSARYMELVGWLVDRGITSEK						240
5	NLAERKRLVAQHLTHVSQTQEONKENQNPNSDAPVIRSKTSARYMELVGWLVDRGITSEK						240
6	NLTERKRLVAQHLTHVSQTQEONKENQNPNSDAPVIRSKTSARYMELVGWLVDKGITSEK						240
7	NLEERKRLVAQFLAESSQRS-QEAASQREFSADPVIKSKTSQKYMALVNWLVEHGITSEK						236
C	NL+ERKRLVA*+L***SQ***Q*****S**PVI*SKTS**YM*LV*WLV*+GITSEK						

	250	260	270	280	290	300	
1	QWIQEDQASYISFNAASNSRSQIKAALDNAGKIMALTSA PDYLVGPAPPADIKTNRIYR						300
2	QWIQEDQASYISFNAASNSRSQIKAALDNAGKIMALTSA PDYLVGPAPPADIKTNRIYR						300
3	QWIQEDQASYISFNAASNSRSQIKAALDNASKIMSLTKTAPDYLVGSNPPEDITKNRIYQ						300
4	QWIQEDQASYISFNAASNSRSQIKAALDNASKIMSLTKTAPDYLVGSNPPEDITKNRIYQ						300
5	QWIQEDQASYISFNAASNSRSQIKAALDNASKIMSLTKTAPDYLVGQNPPEISSNRIYR						300
6	QWIQEDQASYISFNAASNSRSQIKAALDNAGKIMSLTKTAPDYLVGQQPVEDISSNRIYK						300
7	QWIQENQESYLSFNSTGNSRSQIKAALDNATKIMSLTKSAVDYLVGSSVPEDISKNIWQ						296
C	QWIQE*Q*SY*SFN***NSRSQIKAALDNA:KIM+LTK:A*DYLVG::**+DI::NRI*:						

	310	320	330	340	350	360	
1	I LELNGYEPAYAGSVFLGWAQKRFGRNTIWLFGPATTGKTNIAEAIAHAVPFYGCNVWT						360
2	I LELNGYDPAYAGSVFLGWAQKRFGRNTIWLFGPATTGKTNIAEAIAHAVPFYGCNVWT						360
3	I LELNGYDPQYAASVFLGWAQKKFGKNTIWLFGPATTGKTNIAEAIAHAVPFYGCNVWT						360
4	I LELNGYDPQYAASVFLGWAQKKFGKNTIWLFGPATTGKTNIAEAIAHAVPFYGCNVWT						360
5	I LEMNGYDPQYAASVFLGWAQKKFGKNTIWLFGPATTGKTNIAEAIAHAVPFYGCNVWT						360
6	I LELNGYDPQYAASVFLGWATKKFGKNTIWLFGPATTGKTNIAEAIAHTVPFYGCNVWT						360
7	I FEMNGYDPAYAGSILYGWCQRSFNKRNVTWLYGPATTGKTNIAEAIAHTVPFYGCNVWT						356
C	I *E+NGY*P:YA:S***GW***:F*KRNT*WL*GPATTGKTNIAEAIAH+VPFYGCNVWT						

FIGURE 3B

A circular black and white stamp. The text "OIP" is at the top, "IAP28" is at the top right. The date "JAN 05 2006" is in the center. The words "PATENT & TRADEMARK OFFICE" are at the bottom.

	370	380	390	400	410	420	
1	NENFPFNDCV	DKMVIW	WEEGKMTAKV	VESAKAILG	GSKVRVDQ	CKSSAQIDPT	TPVIVTS 420
2	NENFPFNDCV	DKMVIW	WEEGKMTAKV	VESAKAILG	GSKVRVDQ	CKSSAQIDPT	TPVIVTS 420
3	NENFPFNDCV	DKMVIW	WEEGKMTAKV	VESAKAILG	GSKVRVDQ	CKSSAQIEPT	TPVIVTS 420
4	NENFPFNDCV	DKMVIW	WEEGKMTAKV	VESAKAILG	GSKVRVDQ	CKSSAQIEPT	TPVIVTS 420
5	NENFPFNDCV	DKMVIW	WEEGKMTAKV	VESAKAILG	GSKVRVDQ	CKSSAQIDPT	TPVIVTS 420
6	NENFPFNDCV	DKMVIW	WEEGKMTAKV	VESAKAILG	GSKVRVDQ	CKSSAQIDPT	TPVIVTS 420
7	NENFPFNDCV	DKMLIW	WEEGKMTNKV	VESAKAILG	GSKVRVDQ	CKSSVQIDST	TPVIVTS 416
C	NENFPFNDCV	DKM*IW	WEEGKMT*KV	VESAKAILG	GSKVRVDQ	CKSS*QI+*	TPVIVTS

	430	440	450	460	470	480						
1	NTNMC	CAVIDG	NSTTFE	HQQPLQ	DRMFKF	FELTRRL	EHDFGK	VTKQEV	KEFFRW	AQD	HVTEV	480
2	NTNMC	CAVIDG	NSTTFE	HQQPLQ	DRMFKF	FELTRRL	EHDFGK	VTKQEV	KEFFRW	AQD	HVTEV	480
3	NTNMC	CAVIDG	NSTTFE	HQQPLQ	DRMF	FEFELTR	RDLHD	DFGK	VTKQEV	KDFFRW	ASDHVTDV	480
4	NTNMC	CAVIDG	NSTTFE	HQQPLQ	DRMFKF	FELTRRL	DLHD	DFGK	VTKQEV	KDFFRW	ASDHVTDV	480
5	NTNMC	CAVIDG	NSTTFE	HQQPLQ	DRMFKF	FELTKRL	LHD	DFGK	VTKQEV	KDFFRW	ASDHVTEV	480
6	NTNMC	CAVIDG	NSTTFE	HQQPLQ	DRMFKF	FELTRRL	DLHD	DFGK	VTKQEV	KDFFRW	AKDHVVEV	480
7	NTNMC	CVVDG	NSTTFE	HQQPLE	DRMFKF	FELTKRL	PPDFGK	ITKQEV	KDFFAW	AKVNQVPV	476	
C	NTNMC	*V*DG	NSTTFE	HQQPL*	DRMF*	FELT+RL	:+DFGK*	TKQEVK	+FF*WA	:+*+*+:	V	

	490	500	510	520	
1	AHEFYVRKGGANKRPAPDDADKSEPKRA-----		CPSVADPSTSDAEG		522
2	AHEFYVRKGGANKRPAPDDADKSEPKRA-----		CPSVADPSTSDAEG		522
3	AHEFYVRKGGAKKRPA SN DADVSEPKRE-----		CTSLAQPTTSDAEA		522
4	AHEFYVRKGGAKKRPA SN DADVSEPKRQ-----		CTSLAQPTTSDAEA		522
5	THEFYVRKGGARKRPAPNDADISEPKRA-----		CPSVAQPSTSDAEA		522
6	EHEFYVKGGAKKRPA SD ADISEPKRV-----		RESVAQPSTSDAEA		522
7	THEFKVPREL AG TGKA ES LKRPLGDVNTNTSYKSLEKRARLSFVPETPRSSDVTVDPAPL				536
C	:HEF*V+***A:***A::***.*****:		+:*:*:*:***A:		

	530	540	550	560	570	580
1	APVDFADRYQNKCSRHAGMLQMLFPCKTCERMNQNFNICFTHGTRDCSECFP--GVSESQ					580
2	APVDFADRYQNKCSRHAGMLQMLFPCKTCERMNQNFNICFTHGTRDCSECFP--GVSESQ					580
3	P-ADYADRYQNKCSRHVGMNLMFLPCKTCERMNQISNVCFTHGQRDCGECFPGMSESQPV					581
4	P-ADYADRYQNKCSRHVGMNLMFLPCKTCERMNQISNVCFTHGQRDCGECFPGMSESQPV					581
5	P-VDYADRYQNKCSRHVGMNLMFLPCRQCERMNQNSNICFTHGVMDCAEFCF--VSESQPV					580
6	S-INYADRYQNKCSRHVGMNLMFLPCRQCERMNQNSNICFTHGQDKCLEFCF--VSESQP					579
7	RPLNWNRSYDCKCDYHAQFDNISNKCDECEYLNRGKNGCICHNVTHCQICHG-----					588
C	:::+:**RY**KC**H:::*****C::CE**N:::.***H*::.*C.*C**...:::++::					

	590	600	610	620		
1	PVVRKR	TYRKLCAIHHL	LGRAPE	IIAC	SACDLVNVDLDDCVSEQ	623
2	PVVRKR	TYRKLCAIHHL	LGRAPE	IIAC	SACDLVNVDLDDCVSEQ	623
3	SVVKKK	TYQKLCPIHH	ILGRAPE	IIAC	SACDLANVDLDDCVSEQ	624
4	SVVKKK	TYQKLCPIHH	ILGRAPE	IIAC	SACDLANVDLDDCVSEQ	624
5	SVVRKR	TYQKLCPIHH	IMGRAPE	VAC	SACELANVDLDDCDMEQ	623
6	VSVVKK	AYQKLCYIHH	IMG-KVP	DACTACDLVNVDLDD	DCIFEQ	621
7	-----	-----	IP	WEKENL	SDFGDFDDANKEQ	610
C	:+:	*:+:*	***:***:	+++++:	*****:***D*DD*:	EQ